



US009989125B2

(12) **United States Patent**
Schoolcraft

(10) **Patent No.:** **US 9,989,125 B2**
(45) **Date of Patent:** **Jun. 5, 2018**

(54) **MULTI-SPEED TRANSMISSION**

(56) **References Cited**

(71) Applicant: **ALLISON TRANSMISSION, INC.**,
Indianapolis, IN (US)

U.S. PATENT DOCUMENTS

(72) Inventor: **Brian Schoolcraft**, Crawfordsville, IN
(US)

6,176,803	B1	1/2001	Meyer et al.
6,910,985	B2	6/2005	Ishimaru et al.
6,955,627	B2	10/2005	Thomas et al.
6,984,187	B2	1/2006	Biermann
7,101,305	B2	9/2006	Tabata et al.
7,226,381	B2	6/2007	Klemen
7,429,230	B2	9/2008	Ziemer
7,549,942	B2	6/2009	Gumpoltsberger
7,556,582	B2	7/2009	Gumpoltsberger
7,566,283	B2	7/2009	Gumpoltsberger
7,575,533	B2	8/2009	Gumpoltsberger
7,651,431	B2	1/2010	Phillips et al.
7,674,200	B2	3/2010	Shim
7,686,730	B2	3/2010	Baldwin

(Continued)

(73) Assignee: **Allison Transmission, Inc.**,
Indianapolis, IN (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/003,112**

(22) Filed: **Jan. 21, 2016**

(65) **Prior Publication Data**

US 2016/0138681 A1 May 19, 2016

OTHER PUBLICATIONS

International Search Report and Written Opinion, issued by Korean
Intellectual Property Office dated May 7, 2015, 10 pages.

Related U.S. Application Data

Primary Examiner — Jacob S. Scott

Assistant Examiner — Tinh Dang

(62) Division of application No. 14/453,660, filed on Aug.
7, 2014, now abandoned.

(74) *Attorney, Agent, or Firm* — Taft Stettinius &
Hollister LLP; Stephen F. Rost

(51) **Int. Cl.**

F16H 3/66 (2006.01)

F16H 3/64 (2006.01)

(52) **U.S. Cl.**

CPC **F16H 3/66** (2013.01); **F16H 3/64**
(2013.01); **F16H 3/666** (2013.01); **F16H**
2200/0065 (2013.01); **F16H 2200/2012**
(2013.01); **F16H 2200/2046** (2013.01)

(58) **Field of Classification Search**

CPC F16H 2200/0065; F16H 2200/2012; F16H
2200/2046; F16H 3/64; F16H 3/66; F16H
3/666

See application file for complete search history.

(57) **ABSTRACT**

The present disclosure provides a multiple speed transmis-
sion having an input member, an output member, a plurality
of planetary gearsets, a plurality of interconnecting members
and a plurality of torque-transmitting mechanisms. The
plurality of planetary gear sets includes first, second and
third members. The input member is continuously intercon-
nected with at least one member of one of the plurality of
planetary gear sets, and the output member is continuously
interconnected with another member of one of the plurality
of planetary gear sets.

20 Claims, 6 Drawing Sheets

